





V. H. Baby.

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Fig. 1. a. b. c. *Helix vellicata* Forbes.

- 2. a. b. *H. Kelletii*.
- 3. a. b. *H. Pandoræ*.
- 4. a. b. *H. labyrinthus*, var.
- 5. a. b. *Bulimus achatinellina*, Forbes.

Fig. 6. a. b. *Bulimus chemnitzoides* Forbes

- 7. a. b. *fimbriatus*.
- 8. a. b. *Succinea cingulata*.
- 9. a. b. *Cyclostoma purum*.
- 10. *Fusus Kelletii*.

### 3. NOTE ON CALLICHTHYS AND ANABLEPS. BY J. P. G. SMITH, ESQ.

The flesh of *Callichthys*, when cooked, is of a fine deep yellow colour, and in substance is somewhat cheesy or buttery on the tongue; it is very rich in flavour: no cleaning of the intestines appears to be necessary before preparation for the table.

In the creeks by which the island of Mexianna is intersected, these fish literally swarm and keep the waters alive and in a state of constant disturbance. I have witnessed them crossing a log of wood, which was lying in the water and intercepted the passage, in such numbers that they quite concealed it from view; and the people, when they wanted a dish, were in the habit of going down to a favourable spot and picking them out with their hands, without going into the water.

*Anableps* swims in small shoals with the eyes above the surface of the water, generally close to the shore, and so near together that I have shot twenty to thirty at a time by firing a gun among them; their flesh is very sweet, and not unlike a smelt in taste.

### 4. ON THE SPECIES OF MOLLUSCA COLLECTED DURING THE SURVEYING VOYAGES OF THE HERALD AND PANDORA, BY CAPT. KELLETT, R.N., C.B., AND LIEUT. WOOD, R.N. BY PROFESSOR EDWARD FORBES, F.R.S.

#### 1. On the Land-Shells collected during the Expedition. (Mollusca, Pl. IX.)

Officers employed on a hydrographical survey have seldom time or opportunity for making an extensive collection of land-shells. In the assemblage of mollusks collected by Capt. Kellett and Lieut. Wood, there are twenty-eight species, of which eight are undescribed forms. These have been collected at various points between the coast of the Equador to the south and Vancouver Island to the north, the Gelepagos Islands, Pitcairn's Island, and the Sandwich Isles. Unfortunately, in consequence of the mixing of unlabeled specimens, the precise locality of several of the species cannot now be determined.

Of the genus *Helix* there are nine species. Of these, *H. Townsendiana*, *Nuttalliana* and *Columbiana* are certainly from the neighbourhood of the Columbia river. *Helix Kellettii* and *Pandora*, both new, are probably from the same country, though the box in which they were contained was marked "Santa Barbara." *Helix areolata* bears no indication of its locality. *Helix labyrinthus*, variety *sipunculata*, is a very curious modification of *H. labyrinthus*, and, like its known near relations, comes from Panama. *Helix ornatella* (known also as *H. Adamsi*) was collected in Pitcairn's Island, where it had originally been observed. A single specimen of the common European *Helix aspersa* is marked "Santa Barbara," and probably owed its presence, wherever it was found, to transport by Europeans.

Of the genus *Bulimus* fourteen species were collected. Among the most interesting of these are seven species, two of them new, from

Chatham Island, one of the Gelepagos group. Five, viz. *nux*, *calvus*, *eschariferus*, *unifasciatus*, and *rugulosus*, are described forms; two, to which I have applied the names *chemnitzoides* and *achattellinus*, are new, and very curious. Of these latter, the first is singularly isolated in many of its features, though bearing a resemblance sufficient to indicate an affinity with certain elongated and turreted *Bulimi*, natives of South America. The other is equally distinct from any known members of this genus; but, moreover, instead of linking, as the majority of the Gelepagos land-shells do, the fauna of those singular islands with the American continent, rather points, as it were, in the opposite direction, and distantly indicates affinity with the fauna of the Sandwich Isles.

Unfortunately less certain as to exact locality, though contained in a box labeled "Panama," is a curious small elongated *Bulimus*, to which I have given the name *finbriatus*. A form such as this, suggests, when we bear in mind the varied characters of its congeners, considerable doubts as to the value of the generic sections at present generally received among the Pulmoniferous Mollusca. We speak of *Bulimus*, *Helix*, *Pupa*, *Achatina*, and *Balea*, as if they were so many marked groups, the species in each assimilating to ideal generic types, whereas the difference between certain forms of so-called *Bulimi* and others placed under the same generic name is greater than between many *Bulimi* and *Helices* or *Pupæ*. Without assenting to the views of Férussac, which would have amalgamated the genera into one, on account of the similarity in external characters of the soft parts of the animal, and fully admitting that in certain tribes the shell alone may become a most important source of generic character—in other words, granting that in certain groups the sources of generic distinction may lie in the pneumo-skeleton—I do think that we have not yet attained a natural arrangement of the Pulmoniferous Mollusks, and until we have solved that problem, we shall be seriously impeded in the study of the laws of their distribution as well as of their organization.

Besides the *Bulimi* already named, there are specimens of *Bulimus iostomus*, *B. Hartwegii*, and a beautiful new species lately described and figured by Mr. Reeve under the name of *Bulimus Kellettii*, all probably from the Equador; *Bulimus alternatus*, from Panama; and *Bulimus miltecheilus*, marked from the Sandwich Islands, though this curious and beautiful shell is not known to inhabit that locality; nor have we evidence sufficient that the specimen brought home by Lieut. Wood was gathered there. Hitherto it is only known from "San Christoval, south-eastern island of Solomon's Group, north-east coast of New Holland" (Reeve), from which locality the specimens in Mr. Cuming's collection were obtained, and the single example now referred to may have possibly been brought away from the same place.

Of the curious genus *Achatinella*, two species, *livida* and *alba*, are in the collection, both procured at the Sandwich Islands.

Of *Succinea* there is a new species, marked from Mazatlan; I have named it *Succinea cingulata*.

There are two species of *Cyclostoma*, the fine *C. grande* (no locality is attached to it), and an equally beautiful one which I have named *C. purum*.

The following diagnoses of the new species in the collection have been modeled on those of Dr. L. Pfeiffer, whose admirable 'Monographia Heliceorum Viventium' is one of the most valuable contributions to Malacology that have been published for many years.

**HELIX PANDORÆ.** *H. testâ obtectè perforatâ, depresso-globosâ, tenui, rugulosâ, concentricè minutissimè striatâ, anfractibus supra peripheriam fuscis, infra et prope peripheriam albidis fusco cingulatâ, basi albidis; aperturâ rotundatâ intus fuscâ albido-fasciatâ, margine interno incrassato albo; peristomate reflexiusculo, extus albo-labiato, margine columellari dilatato, reflexo, umbilicum occultante.*

Diam. max. 17, min. 16, alt. 14 mill. (Pl. IX. fig. 3 a, b.)

Collected near the Straits of Juan del Fuaco; allied to the last species, but very distinct.

**HELIX KELLETTII.** *H. testâ angustè umbilicatâ, depresso-globosâ, tenui, rugulosâ, granulatâ, fulvâ, spirâ subturbinatâ, sordidè flavo conspersâ, rufo-unifasciatâ, anfractibus 6, convexiusculis, ultimo ad peripheriam fasciâ pallidâ cincto, basi subinflato; aperturâ lunato-rotundatâ, intus pallide fuscâ, unifasciatâ; peristomate reflexiusculo, margine columellari dilatato, reflexo, umbilicum occultante.*

Diam. max. 22, min. 19, alt. 19 mill. (Pl. IX. fig. 2 a, b.)

This species is nearly allied to *Helix Californiensis*, Lea. It differs in the more pyramidal contour of the spire, in the less tumid body-whorl, and consequently differently shaped, more lunate, slightly elongated mouth. The margin of the mouth is more reflected.

**HELIX VELLICATA.** *H. testâ aperte umbilicatâ, tenui, convexo-depressâ, subnitidâ, sulcato-striatâ, striis minutissimis spiralibus decussatâ, late viridibus; spirâ convexiusculâ, anfractibus 6, ultimo rotundato magno, anticè dilatato, subdescendente; aperturâ perobliquâ, lunato-oblongâ; faux alba, peristomate margine sub-reflexo, supernè deflexo-sinuato.*

Diam. max. 22, min. 18, alt. 8 mill.

From Panama? (Pl. IX. fig. 1 a, b, c.)

Distinguished from its near allies by the peculiar deflexion of the upper portion of the lip-margin.

**BULIMUS CHEMNITZIOIDES.** *Bul. testâ subperforatâ, turrito-subulatâ, regulariter costatâ, costis numerosis, nitidulis, flavidulâ, fasciâ spirali fusco-purpureâ cinctâ; anfractibus 14, ultimo  $\frac{1}{2}$  longitudinis subæquante, basi fusco-purpureo; columellâ subrectâ, albidâ; peristoma simplex, acutum; margine externo supernè arcuato; aperturâ ovali-oblongâ.*

Long. 19, diam. 4 mill.; apert. 3 mill. longa, 2 lata.

Chatham Island, Gelepagos. (Pl. IX. fig. 6 a, b.)

This beautiful species strikingly resembles a marine *Chemnitzia*.

It is very distinct from any known *Bulimus*, but has affinities with *B. terebralis*, *B. columellaris*, and *B. clausilioides*.

**BULIMUS FIMBRIATUS.** *Bul. testâ imperforatâ, subuliformi, tenui, costis longitudinalibus subarcuatis, lineis confertis parallelis in interstitiis costarum sculptâ, rufo-fuscâ, suturâ impressâ; anfractus 7-8, tumidi, ultimus  $\frac{1}{3}$  longitudinis vix superans, infra medium obsolete carinatus; columella subsimplex, ad basim apertura angulum formans; apertura subovalis; peristoma simplex.*  
Long. 9, diam. 2 mill.; apert. 2 mill. longa, 1 lata.

(Pl. IX. fig. 7 a, b.)

In a box of shells labeled "Panama." The nearest ally of this very curious shell is the *Bulimus gracillimus* of Pfeiffer, from Cuba.

**BULIMUS ACHATELLINUS.** *Bul. testâ perforatâ, umbilico parvo, conicâ, obsolete striatâ, nitidulâ, flavidâ, fusco-fasciatâ; suturâ cingulatâ, crenulatâ, albidd; anfractibus 7-8 convexiusculis, ultimo vix  $\frac{1}{2}$  longitudinis æquante; apertura semiovalis, peristoma rectum, simplex, acutum; columella obsolete contorta, margine columellari reflexo, perforationem semitegente.*

Long. 19, diam. 10 mill.; apert. 5 mill. longa, 4 lata.

(Pl. IX. fig. 5 a, b.)

This shell is from Chatham Island, Gelepagos; it is unlike any other known *Bulimus*, and its characters distinctly indicate affinity with the *Achatinellinæ*.

*B. 4* **SUCCINEA CINGULATA.** *S. testâ oblongo-ovatâ, vix obliquâ, solidulâ, striatâ, nitidulâ, fulvo-succineâ, sæpe spiraliter albo-lineatâ; spirâ exsertâ, obtusâ; anfractus 4, convexiusculi, ultimus  $\frac{2}{3}$  longitudinis æquans; apertura elongato-ovatâ, superne acutâ, basi obliquè pone axin recedente; columellâ arcuatâ.*

Long. 12, lat. 6 mill.; apert. 7 mill. longa, medio 3 lata.

(Pl. IX. fig. 8 a, b.)

This *Succinea* is distinct from any recorded by Pfeiffer. It is said to come from Mazatlan. The very fine white spiral lines are not always clearly marked in colour; they correspond with lines of deeper depression at intervals of the striæ of growth.

**CYCLOSTOMA PURUM.** *C. testâ orbiculari, depressâ, albâ, nitidulâ, spirâ elevatiusculâ, luteolâ; anfractibus sex, rotundatis, spiraliter sulcatis, sulcis numerosis, transversè striatis; apertura subcirculari, obliquâ, peritremate simplici; umbilico maximo; operculo — ?*

Diam. 48, alt. 17 mill. (Pl. IX. fig. 9 a, b.)

Very near *C. Cumingii*, a species described by Mr. G. Sowerby from the island of Tumaco.

##### 5. ON THE CHARACTERS OF THE GENERA PUSIONELLA AND CLAVATULA. BY J. E. GRAY, F.R.S. ETC.

7] In the List of Genera of Mollusca published in the Proceedings for 1848, I gave the name of *Pusionella* to a genus of shell, referring to the *Nefal* of Adanson and the *Murex pusion* of Born as the type.

This genus is easily characterized by the smooth thin periostraca, and the sharp-edged oblique plait which crosses the lower part of the canal. At the time I formed the genus, which contains several species in my collection, all coming from Africa, I was convinced that it was separate from the other zoophagous mollusca, from the characters assigned to it above, though I am aware that several zoologists were inclined to consider that they were scarcely sufficient for the formation of a generic group.

The examination of the operculum of the shells arranged in this group has shown that it affords a most excellent character, which separates it at once from all the other genera of the family. The operculum is formed of concentric laminæ, with the nucleus or first-formed lamina placed on the straight front or inner side of the operculum, which is situated next to the pillar of the shell. With this peculiarity the genus must now be regarded as firmly established. This form of operculum had only before been observed in the genus *Bezoardica*.

The discovery of this character in shells which had been regarded by most authors as *Fusi*, induced me to examine the opercula of some other allied genera, and I was rewarded by the discovery that *Pleurotoma bicarinata*, which is very nearly allied in form to *P. coronata*, the type of the genus *Clavatula* of Lamarck's 'System,' has the operculum of the same shape and formed nearly in the same manner as that of the genus *Pusionella*; while *Pleurotoma Babylonica*, *P. Virgo*, and *P. oxytrophis*, which may be regarded as the typical *Pleurotomæ*, have the ovate lanceolate operculum with the nucleus on the acute apex, like the typical *Fusi*.

This being the case, it appears to me desirable that the genus *Clavatula* should be re-established, and restored to the species which has the operculum of this kind. Should it be considered necessary to separate from *Pleurotoma* the species which have a very short anterior canal, which have hitherto been regarded as *Clavatula*, they may be called *Drillia*, as that was the name which was first applied to them before they were confounded with the true *Clavatula*.

These observations show the importance of studying the opercula of the different genera; and I may add, that the attention which I have been able to bestow on the subject has convinced me that they form quite as important a character for the distinction of the genera, and the arrangement of the genera into natural groups, as the structure and form of the shelly valve, or of the external form of the animals themselves; and this may well be believed, when we consider them, as I am inclined to do, as an imperfectly developed valve, and as homologous to the second valve of the bivalve shell.

joint of the antennæ, and the extraordinarily enlarged size of the middle facets of the inner margin of the eyes, might indicate it to be the opposite sex of the preceding. The second segment of the abdomen is furnished on each side with a small fascicle of elongated black hairs.

This species is introduced by Mr. F. Walker into his 'List of the Dipterous Insects in the Collection of the British Museum' (part iii. p. 680), under the name of *Stylogaster stylatus*; but it appears to me that it neither accords with Macquart's generic characters of *Stylogaster*, nor with the concise Fabrician specific description of *Conops stylata* (Syst. Antl. 177), nor yet with Wiedemann's more detailed observations, especially with reference to the sexual difference in the form of the antennæ (Auss. Eur. Zw. Ins. ii. 245).

#### DESCRIPTION OF THE FIGURES.

(ANNULOSA, PL. XIX.)

Fig. 1. *Glossina morsitans*, magnified. 1a, the head seen in front with the haustellum removed; 1b, the head seen sideways, the tips of the parts of the haustellum removed; 1c, the lower part of the head, with the parts of the haustellum separated and the hirsute palpi removed; 1d, the underside of the extremity of the head and the bulb seen beneath, showing the bulbous base of the haustellum; 1e, antenna greatly magnified, showing the villose anterior edge of the arista and the hirsute hairs with which it is furnished; 1f, the terminal joint of the tarsus, showing the strong ungues and the large setose pulvilli.

Fig. 2. *Glossina tachinoides* magnified.

Fig. 3. *Glossina tabaniformis* magnified.

Fig. 4. *Stylomyia leonum* magnified. 4a, the head and haustellum seen sideways; 4b, antenna; 4c, abdomen seen sideways; 4d and 4e, extremity of the abdomen with its appendages; 4f, hind leg; 4g, ungues and pulvilli.

### 3. ON THE MARINE MOLLUSCA DISCOVERED DURING THE VOYAGES OF THE HERALD AND PANDORA, BY CAPT. KELLETT, R.N., AND LIEUT. WOOD, R.N. BY PROFESSOR EDWARD FORBES, F.R.S. ETC.

(Mollusca, Pl. IX. & XI.)

Out of 307 species of shells collected by the voyagers, 217 are marine Gasteropoda, 1 is a Cephalopod, and 58 marine bivalves. The genera of which species are most numerous are—*Murex*, *Purpura*, *Trochus*, *Terebra*, *Strombus*, *Conus*, *Columbella*, *Littorina*, *Oliva*, *Cypræa*, *Natica*, *Patella*, *Chiton*, *Venus*, and *Arca*. Among the more local genera represented in this collection are, *Monoceros*, *Pseudoliva*, *Cyrtulus*, *Saxidomus*, and *Crassatella*. The specimens are usually in very fine preservation. Many of the species are rare or local.

The localities at which they were chiefly collected were the coast of southern California, from San Diego to Magdalena, and the shores of Mazatlan. Unfortunately the precise locality of many of the individual specimens had not been noted at the time, and a quantity of Polynesian shells, mingled with them, have tended to render the value of





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Fig. 1. *Trochita spirata*. Forbes  
 2. *Natica Bitchardi*. "  
 3. *Natica Woodwardi*. "  
 4. *N. Cooperi*. "  
 5. *Panaxis pigra*. "  
 6. *P. nigrutella* "

Fig. 7. *Trochus aureotinctus*. Forbes  
 8. *T. Gallina*.  
 9. *T. castaneus*. Nuttall  
 10. *T. Hillii*. Forbes  
 11. *T. purpuratus*. "  
 12. *Purpura analoga*. "  
 13. *P. fuscata*. "



the collection as illustrative of distribution less exact than it might have been. A few specimens of considerable interest were taken by the 'Herald' at Cape Krusenstern. The new species are all from the American shores. There are no products of deep-sea dredging.

As many of the following new forms are from the coast of Mazatlan, Mr. Cuming, whose experience and advice has been taken, and magnificent collection consulted in drawing up this report, has considered it desirable that some undescribed shells contained in his collection, from that region, should be described and figured at the same time.

**TROCHITA SPIRATA, sp. nov.** (Pl. XI. fig. 1.)

*T. testâ conicâ, fusco-purpureâ, longitudinaliter radiato-sulcatâ, sulcis numerosis, prominentibus, subrugosis; anfractibus 6, angustis; lamina internâ spirali, depressâ, magnâ, margine undulatâ.*

Diam.  $2\frac{3}{10}$ , alt.  $1\frac{4}{10}$  unc.

A very handsome species of this group, allied to *Calyptraea sordida* of Broderip, and differing from the well-known *T. trochiformis* in having very much narrower and more numerous whorls, as well as in its internal colouring. It was procured at Massaniello, in the Gulf of California.

**TROCHUS CASTANEUS.** Nuttall, MSS. (Pl. XI. fig. 9.)

*T. testâ latè-conicâ, crassâ, læte castaneâ, spiraliter flavo-lineatâ, anfractibus 6, convexiusculis, omnibus spiraliter sulcatis, sulcis numerosis, ultimo lato, basi subangulatâ, convexo, imperforato, aperturâ subquadratâ, margaritaceâ, suturis impressis. Operculum?*

Alt.  $\frac{8}{10}$ , lat.  $\frac{8}{10}$ , long. apert.  $\frac{4}{10}$  unc.

The number of sulcations in the second whorl is about six; the cavities are always rich chestnut, the elevations yellowish. The general form is intermediate between that of *ziziphinus* and *alabastrites*. The shell has long been known under Nuttall's manuscript name, but never, so far as I am aware, described. It is from Upper California.

1871. 1053. **TROCHUS (MONODONTA) GALLINA, sp. nov.** (Pl. XI. fig. 8.)

*T. testâ obtusè pyramidalî, crassâ (adultus ponderosus), spirâ magnâ, anfractibus 5, glabris, obsoletè obliquè striatis, convexiusculis, albidis, fasciis angustis numerosis purpureis ornatis, anfractu ultimo prope suturam subcanaliculatâ, basi lateribus rotundatis, umbilico albo, imperforato, impresso, aperturâ subquadratâ, labro externo subpatulo, margine acuto, lævi, nigrescente, labro columellari bidentato, albo, faucibus margaritaceo-albis, operculo circulari, corneo, fusco, spiris numerosissimis, confertis. Testa junior spirâ depressiusculâ.*

Alt.  $1\frac{1}{10}$ , lat. max.  $1\frac{2}{10}$ , alt. apert.  $0\frac{6}{10}$  unc.

Probably from the Mazatlan coast.

1871. 1053. **TROCHUS (MONODONTA) AUREO-TINCTUS, sp. nov.**

(Pl. XI. fig. 7.)

*T. testâ obtusè pyramidalî, crassâ, spirâ mediocri, anfractibus 4 vel*

5, *convexusculis*, *obtusè angulatis*, *subcanaliculatis*, *spiraliter 1-2 latè sulcatis*, *striis spiralibus minutis*, *longitudinalibus minutissimis sculptis*, *colore nigro obscurè minutissimèque griseo-lineato*, *ultimo anfractu basi subplanato 4-5 sulcis profundis spiralibus sculpto*, *marginè obtusè subangulato*, *umbilico profundè perforato*, *lætè aurantio*, *aperturá subrotundá*, *labro externo tenui*, *nigro marginato*, *labro columellari albo 1-2-dentato*, *dentibus inæqualibus munitis*, *dente inferiore minimo*, *fauce albo-margaritaceo*.

Alt.  $0\frac{7}{10}$ , lat. max. 1, alt. apert.  $0\frac{4}{10}$  unc.

*Variat costis obliquis transversis.*

With the last

**TROCHUS (MARGARITA) PURPURATUS**, sp. nov.

(Pl. XI. fig. 11.)

*T. testá turbinatá*, *spirá depressá*, *prominulá*, *anfractibus 5*, *convexusculis*, *nitidis*, *lævigatis*, *striis incrementi minutissimis*, *roseolis fasciis spiralibus læte purpureis cinctis*, *suturis impressis*, *basi marginè subrotundato*, *umbilico imperforato*, *albo*, *aperturá subrotundá*, *labro externo tenui*, *labro interno lævi*, *obsoletè undulato*, *albo-margaritaceo*, *faucibus purpureo-margaritaceis*.

Alt.  $0\frac{4}{12}$ , lat. max.  $0\frac{5}{12}$ , alt. apert.  $0\frac{2}{10}$  unc.

A beautiful little species. W. coast of N. America?

**TROCHUS (MARGARITA) HILLII**, sp. nov. (Pl. XI. fig. 10.)

*T. testá latè turbinatá*, *heliciformi*, *spirá obtusá*, *parvâ*, *depressâ*, *anfractibus 5 convexusculis*, *lævigatis*, *politis*, *ad suturas appressis*, *flaveo-albidis*, *ultimo anfractu maximo*, *basi convexo*, *marginibus rotundatis*, *centraliter excavato*, *imperforato*, *aperturá obliquè-subrotundá*, *labro externo tenui*, *columellari leviter arcuato*, *albo*; *faucibus albo-margaritaceis*.

Alt.  $0\frac{4}{12}$ , lat. max.  $0\frac{5}{12}$ , alt. apert.  $0\frac{3}{12}$  unc.

From the northern shores of the W. coast of N. America?

I have dedicated this species to — Hill, Esq., Master of the 'Herald.'

**NATICA PRITCHARDI**, sp. nov. (Pl. XI. fig. 2.)

*N. testá subglobosá*, *spirá brevî*, *anfractibus 5*, *nitidis*, *sub lente striatis*, *flaveolis*, *fasciis transversis fusco-purpureis*, *angulato-undulatis flammulatis*, *in adulto obsoletis seu fascias obscuras spirales simulantibus*; *aperturá ovatá*, *superne obsoletè angulatá*, *columellá costá callosá albá spirali in umbilicum obliquè intrante*, *umbilico superne perforato*; *faucibus fasciato-fuscatis*. *Operculo calcareo*, *albo*, *lævi*, *polito*, *sulco angustissimo prope marginè externo*, *marginè interno recto*, *crenulato*.

Alt. 1 unc.; long. anfr. ult.  $\frac{9}{10}$ , lat.  $\frac{9}{10}$  unc.; long. apert.  $\frac{8}{10}$  unc.

Mazatlan. I have dedicated this pretty shell, which reminds us of the Atlantic *intricata*, to my friend Dr. Pritchard, Assistant-Surgeon of H.M.S. Calypso, who assiduously collected on the coast of Mazatlan, where he, as well as the officers of the 'Herald' and 'Pandora,' met with this species in abundance.

Fig. 2 c. represents the young shell.

PLANAXIS NIGRITELLA, sp. nov. (Pl. XI. fig. 6.)

*P. testá ovato-lanceolatá, crassiusculá, fusco-nigrídá, spirá brevi, acutá, anfractibus 6, spiraliter sulcatis, interstitiis latis, planis, sulcis in medio anfractús ultimi obsolete, aperturá ovatá, patulá, supernè unidentatá, labro externo tenui, margine interno obsolete crenulato, labro columellari, supernè striato, infernè abbreviato, lævi; canali brevissimá, faucibus atropurpureis.*

Long.  $\frac{5}{12}$ , lat.  $\frac{3}{12}$ , long. apert.  $\frac{3}{12}$  unc.

Straits of Juan del Fuaco. The operculum is preserved in some of the numerous specimens, and has a subspiral nucleus (see fig. 6 a).

PLANAXIS PIGRA, sp. nov. (Pl. XI. fig. 5.)

*P. testá ovato-lanceolatá, crassá, flaveolá, spirá mediocri, acutá, anfractibus 6, planatis, lævigatis, aperturá brevè-ovatá, patulá, supernè obsolete unidentatá, labris incrassatis, marginibus lævibus, canali brevissimá, faucibus albis.*

Long.  $\frac{4}{12}$ , lat.  $\frac{2}{12}$ , long. apert.  $\frac{2}{12}$  unc.

Its surface is invested with a soft yellow epidermis. The operculum is corneous, of subconcentric elements, with a lateral subspiral nucleus.

Pitcairn's Island.

NASSA COOPERI, sp. nov. (Pl. XI. fig. 4.) BM.1855.4.5.13

*N. testá lanceolatá, turritá, crassá, anfractibus 6, convexiusculis, spiraliter sulcato-striatis, longitudinaliter 8-costatá; costis distantibus, fortibus, distinctis; anfractu ultimo  $\frac{1}{2}$  longitudinis testæ æquante, aperturá ovatá, canali brevi; labro externo crasso, simplici; labro columellari reflexo, albo; caudá albá; anfractibus fuscis, obscure albo-fasciatis.*

Long.  $\frac{8}{12}$  unc., lat. anfr. ult.  $\frac{4}{12}$ , long. apert.  $\frac{3}{12}$ .

Marked from the Sandwich Isles. Dedicated to Lieut. Cooper, R.N., of the 'Herald.'

NASSA WOODWARDI, sp. nov. (Pl. XI. fig. 3.) BM.1855.4.5.18

*N. testá lanceolatá, turritá, crassá, albá, rufo-fasciatá, anfractibus sex convexiusculis, spiraliter sulcatis, longitudinaliter densè-costatis, spirá vix longitudinem ultimi anfractús æquante; aperturá ovatá, caudá brevissimá; labro columellari reflexá, albá; caudá albá; fauce striato.*

Long.  $\frac{5}{12}$  unc.; lat.  $\frac{2}{10}$  unc.; long. apert.  $\frac{2}{12}$  unc.

With the last. Dedicated to — Woodward, Esq., R.N., Purser to the 'Herald.'

PURPURA ANALOGA, sp. nov. (Pl. XI. fig. 12.)

*P. testá turritá, albidá, spiraliter latè rufo-fasciatá; spirá exertá; anfractibus 5 rotundatis, costis spiralibus (6 ad 8 in anfractu penultimo), quadratis, numerosis cinctis, interstitiis crenulatis, ad suturam obsolete, labro subdenticulato.*

Long.  $1\frac{4}{12}$ , lat.  $\frac{8}{12}$ , long. apert.  $\frac{8}{12}$  unc.

This species (from the Californian coast?) bears a striking resemblance to the Atlantic *Purpura lapillus*, and is intermediate between

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it and the *Purpura decemcostata* of Middendorff, from the Icy Sea at Behring's Straits, the place of which it probably takes on the western shores of North America.

*Purpura*, nov. sp.? A single specimen, to which I abstain giving a name, since its characters are intermediate between those of *decemcostata* and *Freycinetii* (a Kamtschatka shell); it is probably a variety of the former.

PURPURA FUSCATA, sp. nov. (Pl. XI. fig. 13.)

*P. testâ oblongâ, subturritâ, fuscâ; spirâ brevi; anfractibus convexis, costis spiralibus (2 in anfractu penultimo) paucis distantibus subsquamosis cinctis, interstitiis costis obsoletis; aperturâ dilatâ, columellâ albâ.*

Long.  $1\frac{1}{2}$ , lat.  $\frac{8}{12}$ , long. apert.  $\frac{8}{12}$  unc.

A species of the *Lapillus* group. Said to have been taken at the Sandwich Islands.

Among the *Purpura* in the collection are *P. planospira*, *P. columellaris*, and *P. Carolensis*, all Galapagos species, and probably collected during the visit to those islands.

FUSUS KELLETII, sp. nov. (Pl. IX. fig. 10.) *See p. 53*

*F. testâ crassâ, fusiformi, pyramidatâ, anfractibus 9, spiraliter striatis, angulatis, noduloso-costatis, costis in anfractibus omnibus 8, prope suturam obsoletis excavatis appressisque; anfractu ultimo  $\frac{2}{3}$  testæ occupante; aperturâ elongato-pyriformi, superne angulatâ; inferne canali obliquo plus  $\frac{1}{3}$  aperturæ æquante; labro columellari, reflexo, incrassato, labro externo attenuato, subdenticulato; caudâ incrassatâ, contortâ, reflexâ; colore sordide albido, ore albo.*

Long.  $3\frac{1}{2}$  unc.; lat. max. anfr. ult.  $1\frac{2}{10}$  unc.; long. apert.  $2\frac{3}{4}$  unc.; long. caud.  $\frac{9}{10}$ .

This remarkable shell was taken on the Californian coast, and is very distinct from any known *Fusus*. In general aspect it closely resembles a *Fasciolaria*, reminding us strongly of the European *Fasciolaria tarentina*, but is greatly larger and has no plaits on the pillar lip. The striæ which wind round the whorls are grouped in twos and threes. They become very strongly marked and assume the character of sulcations on the caudal portion of the body whorl. The ribs are mainly developed a little above the centre on the angulated portion of the body whorl and on the lower halves of the upper whorls, so prominently as to appear like large tubercles.

I have dedicated this unique shell to the eminent conductor of this important expedition.

*Fusus Oregonensis* was taken on the Californian coast, and *F. salebrosus* on the coast of Mazatlan.

#### 4. ON THE GENUS APTERYX. BY A. D. BARTLETT.

(Aves, Pl. XXX. XXXI.)

In calling the attention of the Meeting this evening to the large collection of specimens of the genus *Apteryx* on the table, I beg to state that I have been led to make a careful examination of all the